<0.5 μg/l. CC times were similar. No pt had perioperative MI by ECG criteria. In the HIGH grp LV stroke work index was reduced at 0.5 and 1 hr (18 ± 2.0, 21 ± 2.3 vs 29 ± 3.9 g.m/m^2 $p < 0.05$) vs pre CC. In the LOW grp LVSWI was unchanged vs pre CC up to 3 hrs. By 3 hrs LVSWI was significantly higher in the LOW grp (28.1 ± 2.5 vs 21.9 ± 1.9 g.m/m^2, $p < 0.05$) vs HIGH grp. Peak rate of pressure rise +dP/dt did not change in either grp but −dP/dt increased at 3 hrs in LOW grp (942 ± 57 vs 726 ± 37 mmHg/s $p < 0.05$) vs pre CC. *Conclusion:* The release kinetics of TnT differ from those of CK with greater TnT release. Prolonged TnT but not CK release predicts delayed recovery of global LV function. The more sustained release of TnT may be related to greater myocardial damage reflected by release of myofibril bound TnT.

931-81 Decreased Incidence of Stroke in Atrial Fibrillation Patients After a MAZE Procedure

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The MAZE procedure decreases the incidence of atrial fibrillation, but its subsequent effect on stroke is not clear. We report the results of MAZE procedure performed on 66 patients with atrial fibrillation at a single institution. Forty-five patients were male and 21 were female with the average age of 61 years at the time of surgery. The primary indication for surgery is as follows: atrial fibrillation – 30 patients, atrial fibrillation and CABG – 3 patients, valve repair – 26 patients and ASD – 4 patients. The average duration of post-op follow-up is 306 days. Twenty-nine of the 66 patients had high risk criteria for stroke (prior stroke 7, history of CHF 12, hypertension 6, and decreased left ventricular function post-op 10) as determined by the Stroke Prevention in Atrial Fibrillation Study. Postoperatively, 9 patients were treated with chronic anticoagulants and the remainder were treated with aspirin therapy. Ten patients had recurrence of atrial fibrillation after hospital discharge. No patients had a stroke or transient ischemic attack during the follow-up period (upper 95% confidence limit on the rate of events = 5.4 events per 100 patient years).

Conclusions: Even in high risk patients for stroke, the MAZE procedure appears effective in reducing the incidence of subsequent stroke in patients with atrial fibrillation.

931-82 Quality of Life Following Transmyocardial Revascularization Using The Heart Laser: Randomized Study Results

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One hundred sixty patients (61 ± 11 yrs., 19% F) with Canadian Heart Association Classification III-IV angina, who were not candidates for conventional CABG/PTCA revascularization, were enrolled in a randomized clinical study comparing Transmyocardial Revascularization (TMR) using the PLC CO_2 laser system (77 pts.) to medical therapy (83 pts.). PMH: CABG 88%; PTCA 50%; AMI 78%; CHF 36%. Quality of life was measured with the SF-36 and the Seattle Angina Questionnaire (SAQ) at time of enrollment, and at 3, 6, and 12 months. In TMR patients, the SF-36 survey revealed an improvement from 18% to 48% in standard physical health status and standard mental health status compared with baseline. In contrast the medical management patients experienced a change of −13% to +13% over the same time period. The average quality of life index as measured by the SAQ (the sum of exertional capacity, anginal stability, anginal frequency, treatment satisfaction, and disease perception) increased +127% on TMR, while it remained unchanged (+1%) in the control arm. These data demonstrate a marked improvement in quality of life, as measure by self administered questionnaires, in patients treated with TMR versus those continued on medical management.

932 Pediatric/Congenital Heart Surgery

Monday, March 17, 1997, Noon–2:00 p.m.
Anaheim Convention Center, Hall E
Presentation Hour: Noon–1:00 p.m.

932-64 Improved Overall (Pre & Post) Cardiac Transplant Survival in Infancy: Strategies to Regulate Pulmonary Resistance

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The risk of death for infants enrolled in a transplant (tx) protocol is greatest while awaiting a donor organ followed by the risk of dying early post-tx. The purpose of this study was to evaluate two strategies to manipulate pulmonary resistance and their impact on overall mortality; 1) increase pulmonary resistance to maintain hemodynamic stability pre-tx and 2) decrease pulmonary resistance to avoid donor right heart failure post-tx. 23 infants (<6 month at listing) were listed at 1.1 ± 1 month from 4/94–8/96. Hypoplastic left heart syndrome (HLHS) and variants was the diagnosis leading to listing in 16 infants (70%). The remainder (7) had complex congenital heart disease, including pulmonary atresia with RV dependent coronary circulation in 3 infants, and single ventricle in 2 infants. 19/23 (83%) received PGE while waiting, 16/23 continuously. Waiting time was 52 ± 37 days. Strategies to increase pulmonary resistance were used in 20/23 (87%), including 1) supplemental inhaled nitrogen (SIN) in 13 (FiO_2 16–20%), 2) maintaining a restrictive atrial communication in 6, and 3) pulmonary artery band in 3. Waiting infants grew 24 ± 18 grams/day and were intubated only 7 ± 6 days. Waiting mortality was 4% (1/23 an infant post open heart surgery). 20 infants have undergone transplant and all received intravenous pulmonary vasodilators. 2 remain listed. Inhaled nitric oxide (INO) (2–20 PPM) was used in 75% of infants with pulmonary hypertension pre-tx. INO was continued for a mean of 5 days (range 1–17 days). Post tx survival was 90% (18/20) at 1.2 ± 0.8 years. The pulmonary artery pressure was 20.6 ± 4.7 mmHg and wedge pressure was 7.9 ± 4.7 mmHg at 1 year.

These data indicate that strategies to raise pulmonary resistance (SIN, etc.) pre-tx can contribute to improved survival and the risk of pulmonary hypertension and graft failure post tx can be controlled with INO. There was a 94% survival rate while listed and 90% survived tx, thus the *overall* (pre and post) survival was 87%.

932-65 Heart Transplantation in Children with Visceral Heterotaxy and Complex Congenital Heart Disease

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Visceral heterotaxy (VH) is frequently associated with complex congenital heart disease, dextrocardia, situs inversus, and abnormal venous connections. Surgical mortality and morbidity in these children is high. Pts are frequently poor candidates for Fontan operation because of AV valve insufficiency, ventricular dysfunction, and/or elevated PVR. *Purpose:* To determine the rates of survival, rejection, infection, and re-operation after cardiac transplantation (tx) in pts with VH. *Population:* We reviewed the records on the 30 pts with VH who have undergone tx at our institution since 1989. Twenty had undergone previous cardiac operations. Median age at tx was 2.7 yrs (range: 1 week–17.7 yrs). Twenty pts had asplenia; 10 polysplenia. Fifteen pts had dextrocardia, 13 atrial situs inversus, 18 bilateral SVC, 7 interrupted IVC, 13 TAPVC, and 6 PAPVC. Median PAp before tx was 19 mm Hg (range: 11–34). Follow-up since tx was 4.1 ± 1.2 yrs. *Results:* Survival at 30 days, 1 yr, 3 yrs, and 5 yrs was 93%, 84%, 74%, and 65%, respectively. Causes of death included graft failure (1), rejection (3), sepsis (2), pulmonary venous obstruction (1), lymphoproliferative disease (1), and tx coronary disease (1). Splenic status, dextrocardia, age at Tx, previous procedures, mean PAp, situs, venous anomalies were not independent risk factors for death. Rates of rejection and infection after tx were not different than age-matched tx pts without VH. Two pts required re-operation for pulmonary venous stenoses; 1 required dilatation of SVC obstruction. *Conclusion:* Despite complex anomalies of situs and great vessel arrangements, innovative surgical techniques have enabled good survival following tx for pts with VH. Cardiac tx should be considered for primary and "rescue" therapy for children with VH who are at high risk for more conventional surgery.